

## ABSTRACT OF THE DISCLOSURE

A method and a device for the continuous non-invasive measurement of blood pressure, according to the principle of the relaxed arterial wall, the device including at least one first pressure cuff (1) and one second pressure cuff (1') of a comparable or identical size. The cuffs respectively include an inflatable pressure measuring chamber (4, 4') and can be applied to a first and a second body part or body region (3, 3') respectively containing an artery (2, 2') of a comparable or identical size. The first pressure cuff (1) has a first plethysmographic sensor device (5) connected to a regulating and control device (6) used to regulate the pressure in the first pressure measuring chamber (4) by means of the measuring signal of the plethysmographic sensor device (5). The pressure measuring chamber (4) is connected to at least one pressure sensor (7) in order to obtain a pressure measuring signal. According to the invention, the pressure measuring chamber of the second pressure cuff (1) is embodied as a reference pressure chamber (4) that can be regulated at the same time as the pressure measuring chamber (4) and independently therefrom. The pressure measuring chamber (4) of the first pressure cuff (1) and the reference pressure chamber (4') of the second pressure cuff (1') both have separate inlet waves (10, 10') and outer valves (11, 11'), and the pressure in the reference pressure chamber (4') can be regulated by means of the regulating and control device (6) according to a pre-determinable pressure function.